MYCOTAXON

ISSN (print) 0093-4666 (online) 2154-8889 Mycotaxon, Ltd. ©2019

*April–June 2019—Volume 134, pp. 301–305*

https://doi.org/10.5248/134.301

# *Beltraniopsis cyclobalanopsidis* sp. nov. from Guizhou, China

Zhong-Jiu Xiao[1,2,3*], Xiao-Xia Li[1,3], Chang-Hong Chu [1], Ting Liu[1,3], Zheng-Zheng Lu[1,3], Pei-Yong Song[1,3]

[1] *College of Biological & Agricultural Science & Technology &*
[2] *College of Resources & Environment, Zunyi Normal University, Zunyi, Guizhou 563002, China*
[3] *Key Laboratory of Regional Characteristics for Conservation & Utilization of Plant Resource in Chishui River Basin, Zunyi, Guizhou, 563002, China*

* Correspondence to: *xzj198099@163.com*

Abstract—A new species, *Beltraniopsis cyclobalanopsidis*, is described and illustrated from a specimen collected on dead twigs of *Cyclobalanopsis stewardiana* [≡ *Quercus stewardiana*] in Guizhou Province, China. The fungus is characterized primarily by its longer, setiform conidiophores with inflated apexes. A dichotomous key to *Beltraniopsis* species is provided.

Key words—anamorphic fungi, lignicolous fungi, taxonomy

## Introduction

Batista & Bezerra (1960) erected *Beltraniopsis* based on the type species, *Beltraniopsis esenbeckiae* Bat. & J.L. Bezerra. The genus is characterized by macronematous, simple or branched setiform conidiophores and polyblastic, discrete, sympodial extended, denticulate conidiogenous cells with separating cells that produce solitary, acropleurogenous, aseptate, biconic, smooth, brown conidia.

*Beltraniopsis* currently contains ten valid species found as saprobes on rotten leaves (Matsushima 1971, 1993; Pirozynski 1972; Castañeda-Ruiz & Arnold 1985; Rambelli & Ciccarone 1985; Gusmão & al. 2000; Castañeda Ruiz & al. 2006; Crous & al. 2014; Lin & al. 2017). A survey of saprobic microfungi on

dead twigs from a subtropical forest in Guizhou Province, China, has revealed a previously undescribed *Beltraniopsis* species. The specimen is deposited in the Mycological Herbarium of Zunyi Normal College, Zunyi, China (HMZNC).

***Beltraniopsis cyclobalanopsidis*** Z.J. Xiao & Xiao X. Li, **sp. nov.** Fig. 1

FN570598

Differs from all other *Beltraniopsis* species by its longer setiform conidiophores inflated rather abruptly at the apical cell.

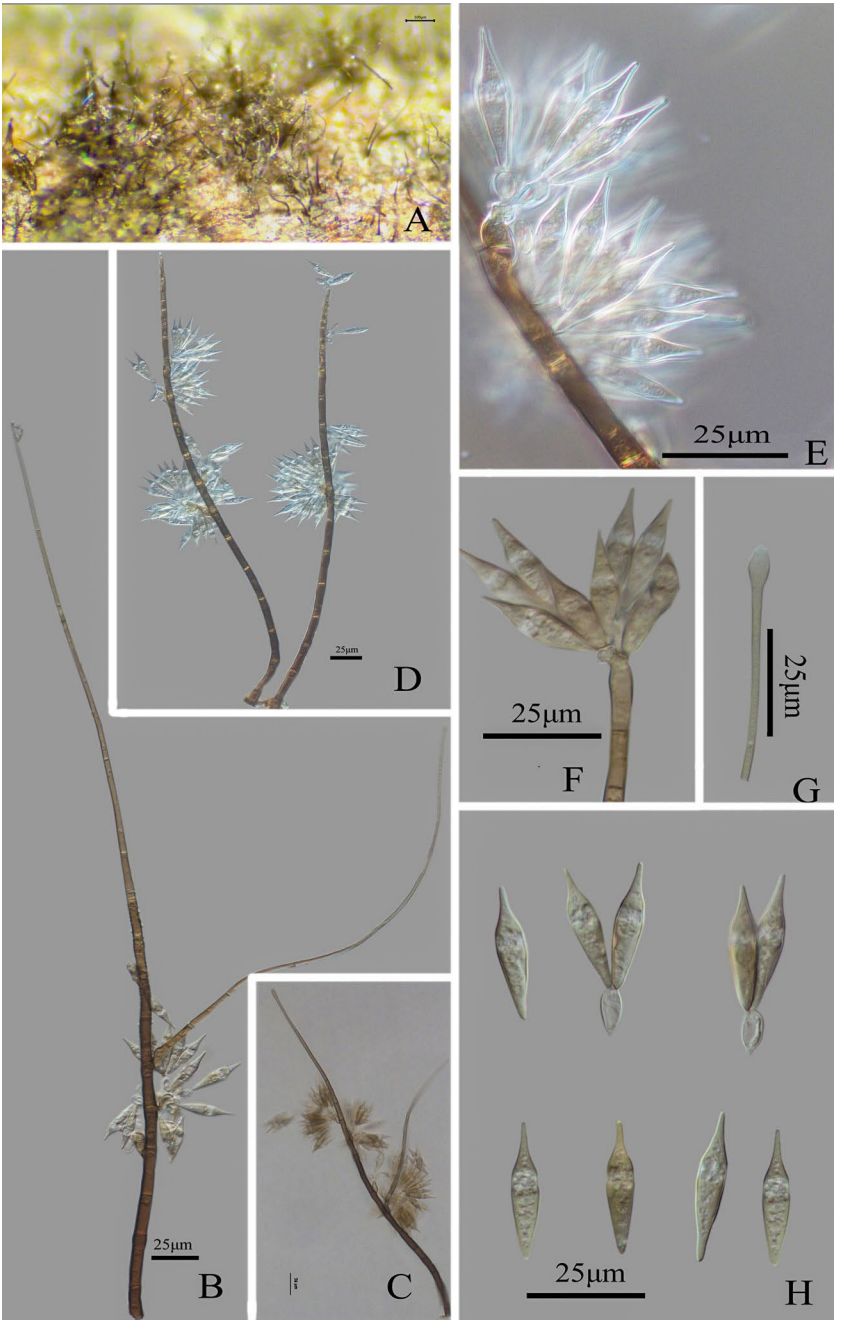
Type: China, Guizhou Province: Xishui National Nature Reserve, saprobic on dead twigs of *Cyclobalanopsis stewardiana* (A. Camus) Y.C. Hsu & H.W. Jen [≡ *Quercus stewardiana* A. Camus], 6 Jun. 2018, X.X. Li (**Holotype**, HMZNC 0450).

Etymology: Latin, referring to the substrate genus *Cyclobalanopsis*.

Colonies on dead twigs effuse, velutinous, brown to dark brown. Mycelium partly superficial and immersed in the substrate, composed of branched, septate, pale brown to brown, cylindrical, smooth-walled hyphae. Conidiophores macronematous, mononematous, setiform, sometimes becoming fertile at the apex, erect, slightly flexuous, unbranched or mostly branched in the lower-middle part, thick-walled, cylindrical, 13–25-septate, smooth or sometimes the lower-middle part with verrucose, arising from flat, radially lobed basal cells, brown to dark brown at the lower part, pale brown to hyaline at the upper part, 420–1110 μm long, 5.5–7.5 μm diam. at the base, tapering to the upper part, but apical cell inflated rather abruptly, rounded, thin-walled, hyaline, 2.2–4.5 μm diam. Conidiogenous cells polyblastic, mostly discrete intercalary, sometimes terminal, integrated, located in the lower-middle part of conidiophores, sympodial extended, 1–3-denticulate apex, smooth, ampulliform, flask-shaped, pale brown, 9.5–12.5 μm long, 5.5–7 μm diam. in the broadest part. Separating cells ellipsoidal to ovoid, thin-walled, smooth, hyaline, denticulate apex, 7–10.5 μm long, 4.5–5.5 μm diam. in the broadest part. Conidia solitary, biconic to broad navicular, smooth, light brown, constricted at the supra-equatorial zone with subhyaline transverse band, 29–35 × 5.5–7.5 μm, apex rostrate, 0.5–1.5 μm wide, base obtuse.

Comments—Based on the synopsis and key to *Beltraniopsis* species, *B. cyclobalanopsidis* is superficially similar to *B. longiconidiophora* C.G. Lin & K.D. Hyde and *B. miconiae* Gusmão & Grandi. *Beltraniopsis longiconidiophora*

Fig. 1. *Beltraniopsis cyclobalanopsidis* (holotype, HMZNC 0450). A. Conidiophores arising from twig surface; B, C. Conidiophores, conidiogenous cells, separating cells, and conidia; D. Conidiophore with broken upper part; E. Conidiogenous cells, separating cells, and conidia; F. Conidia arising from conidiogenous cells; G. Inflated apex of the conidiophores; H. Conidia.


A
B
25μm
C
D
25μm
E
25μm
F
25μm
G
25μm
H
25μm

differs from *B. cyclobalanopsidis* by its shorter setiform conidiophores (100–680 µm) tapering to a pointed apex and by its shorter conidia (18–29 µm; Lin & al. 2017); and *B. miconiae* differs by its much shorter setiform conidiophores (77–147 µm) with a slightly inflated apical cell (2–3.5 µm) and by its smaller separating cells (6–8 × 3–4.6 µm; Gusmão & al. 2000).

**Key to *Beltraniopsis* species**

1. Setiform conidiophore acute at the apex ..... 2
1. Setiform conidiophore rounded or inflated at the apex ..... 6
2. Setiform conidiophore verrucose ..... *B. asperisetifera*
2. Setiform conidiophore smooth ..... 3
3. Setiform branched conidiophore apex not fertile ..... 4
3. Setiform unbranched conidiophore apex fertile ..... 5
4. Conidia 3–8.5 µm diam. ..... *B. longiconidiophora*
4. Conidia 4–5 µm diam. ..... *B. ramosa*
5. Conidia 20–25 × 4–6 µm ..... *B. esenbeckiae*
5. Conidia 22–28 × 6.5–8.5 µm ..... *B. tanzaniensis*
6. Setiform conidiophore rounded at the apex ..... 7
6. Setiform conidiophore inflated at the apex ..... 9
7. Conidia without rostrum and transverse band ..... *B. aquatica*
7. Conidia with rostrum and transverse band ..... 8
8. Conidia 30–37 × 9 µm, separating cells 4–4.5 × 4 µm ..... *B. fabularis*
8. Conidia 30–33 × 7–8 µm, separating cells 7–10 × 4–6 µm ..... *B. neolitseae*
9. Conidia without rostrum and transverse band ..... *B. rhombispora*
9. Conidia with rostrum and transverse band .....10
10. Setiform conidiophore 77–147 µm long ..... *B. miconiae*
10. Setiform conidiophore 420–1110 µm long .....*B. cyclobalanopsidis*

**Acknowledgments**

The authors express gratitude to Dr. R.F. Castañeda Ruiz (Alejandro de Humboldt—INIFAT, Havana, Cuba) and Dr. Jian Ma (Jiangxi Agricultural University, Nanchang, China) for serving as pre-submission reviewers and for their valuable comments and suggestions. Dr. Lorelei L. Norvell's editorial review and Dr. Shaun Pennycook's nomenclature review are greatly appreciated. This project was supported by the National Natural Science Foundation of China (№.31600030), Science and Technology Project of Guizhou Province (№LKZS[2014]20 and №[2017]1206), Guizhou Provincial Department of Education Foundation (№QJHKY[2018]032, №QJGF[2017]158, №[2010]087, №QSZHZ[2012]146 and №ZYRCPYJH[2016]9, Guizhou Science and Technology Cooperation Plan (No. LH[2015]7031).

**Literature cited**

Batista AC, Bezerra JL. 1960. *Beltraniopsis* – novo gênero de fungos dematiaceae. Publicações do Instituto de Micologia da Universidade do Recife 296: 1–13.

Castañeda RF, Arnold GRW. 1985. Deuteromycotina de Cuba. I. Hyphomycetes. Revista del Jardín Botánico Nacional Universidad de la Habana 6: 47–67.

Castañeda Ruiz RF, Minter DW, Stadler M, Saikawa M, Camino-Vilaró M. 2006. Anamorphic fungi from submerged leaves in Cuba: *Brevicatenospora enteroproliferata* gen. et sp. nov. and *Beltraniopsis aquatica* sp. nov. Mycotaxon 96: 151–158.

Crous PW, Shivas RG, Quaedvlieg W, et al. 2014. Fungal Planet description sheets: 214–280. Persoonia 32: 184–306. https://doi.org/10.3767/003158514X682395

Gusmão LFP, Grandi RAP, Milanez AI. 2000. A new species of *Beltraniopsis* from Brazil, with a key to the known species. Mycological Research 104: 251–253. https://doi.org/10.1017/S0953756299001239

Lin CG, Hyde KD, Lumyong S, McKenzie EHC. 2017. *Beltrania*-like taxa from Thailand. Cryptogamie, Mycologie 38: 301–319. https://doi.org/10.7872/crym/v38.iss3.2017.301

Matsushima T. 1971. Microfungi of the Solomon Islands and Papua-New Guinea. Published by the author: Kobe, Japan.

Matsushima T. 1993. Matsushima mycological memoirs no. 7. Published by the author: Kobe, Japan.

Pirozynski KA. 1972. Microfungi of Tanzania. I. Miscellaneous fungi on oil palm. II. New hyphomycetes. Mycological Papers 129. 64 p.

Rambelli A, Ciccarone C. 1985. Two new dematiaceous hyphomycetes from humid tropic forest litter. Giornale Botanico Italiano 119: 291–294. https://doi.org/10.1080/11263508509426684